

Claims

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- [c1] An inexpensive to manufacture exercise device with secure, tight tolerance, non-rotating weights, comprising:
a central handle with a near end and a far end, wherein each end has a geometric shape and a central bore at least part way through each end;
a means for securing one or more weights to the handle located at least partially within the central bore; and
one or more weights, each comprising:
an interior element providing tight tolerance with the handle having a circumference and a generally central void of a shape complementary to the geometric shape of the central handle.
- [c2] The exercise device of claim 1, wherein the central bore comprises threads, and the means for securing comprises:
a locking bolt including threads which correspond with the central bore threads.
- [c3] The exercise device of claim 1, wherein the means for securing comprises welding the interior element to the end of the handle.
- [c4] The exercise device of claim 2, further comprising a washer with a predetermined circumference located between the interior element and the locking bolt.
- [c5] The exercise device of claim 4, wherein the weights further comprise a resistance including a centrally located recession on the outside surface of a circumference at least that of the circumference of the washer.
- [c6] The exercise device of claim 1, wherein the handle is generally cylindrical.
- [c7] The exercise device of claim 1, wherein the handle further comprises a protrusion between the center and either end, and the resistance has a corresponding depression generally centrally located on the inside surface.
- [c8] The exercise device of claim 1, wherein the geometric shape of the end of the handle is generally rectangular.

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- [c9] The exercise device of claim 1, wherein the geometric shape is formed by cutting sides lengthwise into the end of the handle.
- [c10] The exercise device of claim 1, wherein the geometric shape is irregular.
- [c11] The exercise device of claim 1, wherein the weight is formed by casting liquid metal in a mold around the interior element.
- [c12] The exercise device of claim 1, further comprising pins connecting the interior element to a void generally centrally located through a resistance.
- [c13] The exercise device of claim 12, wherein the interior element and the resistance comprise one or more complementary apertures whereby the pins connect the interior element to the resistance.
- [c14] The exercise device of claim 13, wherein the circumference of the interior element and the circumference of the void in the resistance are generally circular.
- [c15] The exercise device of claim 14, wherein the pins comprise a tight tolerance material.
- [c16] The exercise device of claim 15, wherein the pins are made of steel.
- [c17] The exercise device of claim 12, wherein the interior element is made of steel. The exercise device of claim 1, further comprising an endcap including at least one nipple to be placed over an outer surface of the weight, wherein the outer surface includes at least one void complementary to each nipple. A method of forming an inexpensive to manufacture, non-rotating weight for use with an exercise device, comprising the steps of: making a casting of a resistance; drilling a hole in the center of the resistance into a shape complementary to the circumference of a tight tolerance interior element; press fitting the interior element into the casting; drilling one or more complementary apertures located at least partway through the casting and at least partway through the interior element; and press fitting pins complementary to the apertures into the apertures. The method of claim 18, wherein the method of forming the weight further comprises the step of applying a rubber outer shell

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to the resistance; and attaching an endcap to the rubber outer shell. The method of claim 19, wherein the endcap comprises nipples complementary to voids formed on the outer surface of the resistance. (22) A method of making an inexpensive to manufacture exercise device with secure, tight tolerance, non-rotating weights, comprising the steps of: making a casting of a resistance; drilling a hole in the center of the resistance into a shape complementary to the circumference of an interior element; press fitting an interior element having a circumference and a generally central void having a predetermined geometric shape into the casting; drilling one or more apertures located at least partway through the casting and at least partway through the interior element at the circumference of the interior element; press fitting pins complementary to the apertures into the apertures to form a weight; placing one or more weights over each end of a central handle, wherein each end has a geometric shape complementary to the shape of the central void of the interior element and a central bore at least partway through the handle; and securing the weight to the handle through the bore at each end of the handle with a means for securing. (23) The method of claim 21, wherein the central bore comprises threads, and the means for securing comprises a locking bolt including threads which correspond with the central bore threads. (24) The method of claim 22, wherein the means for securing further comprises a washer located between the interior element and the locking bolt.

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